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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,938	02/27/2004	George Rauscher	21140.001	9207
42922 7	590 03/28/2006		EXAM	INER
WHITAKER, CHALK, SWINDLE & SAWYER, LLP 3500 CITY CENTER TOWER II			SUHOL, DMITRY	
301 COMMER	•		ART UNIT	PAPER NUMBER
FORT WORTI	H, TX 76102-4186		3725	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)	-
	10/788,938	RAUSCHER ET AL.	
Office Action Summary	Examiner	Art Unit	
,	Dmitry Suhol	3725	
The MAILING DATE of this communication ap			
Period for Reply			
A SHORTENED STATUTORY PERIOD FOR REPI WHICHEVER IS LONGER, FROM THE MAILING [- Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statu - Any reply received by the Office later than three months after the maili - earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNIC .136(a). In no event, however, may a red d will apply and will expire SIX (6) MON te, cause the application to become AB.	CATION. cply be timely filed ITHS from the mailing date of this communication ANDONED (35 U.S.C. § 133).	
Status			
1)⊠ Responsive to communication(s) filed on 28 l	December 2005.		
	is action is non-final.		
3) Since this application is in condition for allowa	ance except for formal matte	ers, prosecution as to the merits	is
closed in accordance with the practice under	Ex parte Quayle, 1935 C.D.	. 11, 453 O.G. 213.	
Disposition of Claims			
4)⊠ Claim(s) <u>1-17</u> is/are pending in the application	n.		
4a) Of the above claim(s) is/are withdra			
5) Claim(s) is/are allowed.			
6)⊠ Claim(s) <u>1-17</u> is/are rejected.			
7) Claim(s) is/are objected to.			
8) Claim(s) are subject to restriction and/	or election requirement.		
Application Papers			
9) The specification is objected to by the Examin	er		
10) The drawing(s) filed on is/are: a) ac		by the Examiner.	
Applicant may not request that any objection to the	· · ·		
Replacement drawing sheet(s) including the correct	ction is required if the drawing(s) is objected to. See 37 CFR 1.121	(d).
11)☐ The oath or declaration is objected to by the E	xaminer. Note the attached	Office Action or form PTO-152.	
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:	n priority under 35 U.S.C. §	119(a)-(d) or (f).	
1. Certified copies of the priority documen	nts have been received.		
2. Certified copies of the priority documen	nts have been received in Ap	oplication No	
3. Copies of the certified copies of the price	ority documents have been	received in this National Stage	
application from the International Burea	` ','		
* See the attached detailed Office action for a lis	t of the certified copies not r	eceived.	
Attachment(s)			
1) Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948)		ummary (PTO-413) /Mail Date	
Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08 Paper No(s)/Mail Date		formal Patent Application (PTO-152)	

DETAILED ACTION

The indicated allowability of claims 1-17 is withdrawn in view of the newly discovered reference(s) to Allyne '476, Panyard et al '230 and Squires '053 or Lynall '270. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allyne '476 in view of Panyard et al '230 and Squires '053 or Lynall '270. Allyne teaches that it is known to construct a cylinder liner (5) having a flange portion (5a) from a variety of metals through any known techniques (page 4, col. 1, lines 38-56). The limitations of claim 2 are shown in figures 1 and 4.

Panyard is relied upon to teach that it is known to construct a cylinder liner from a carbon alloy steel (col. 3, lines 18-20) since a steel liner has a marked increase in stiffness over a conventional iron liner resulting in improved performance characteristics (col. 4, lines 28-30).

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Squires and Lynall both teach that it is known to construct a metallic cylindrical member having flanges through the step of cold forging in a press (see figures 1-2 of Lynall and figures 1-6 of Squires).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to have manufactured the cylinder liner of Allyne from a carbon alloy steel material for the purpose of improved performance characteristics. It would have been further obvious to manufacture the flange portion of Allyne through cold forging steps in a hydraulic press for the purpose of quick and cost effective manufacture, especially since Allyne clearly states that his cylinder liner may be manufactured by any known methods.

Regarding claims 3-6 and the carbon content of the steel and the internal diameter of the cylinder liner, it would have been obvious to utilize carbon steel with carbon amount in the claimed ranges and to manufacture the cylinder liner with the claimed inner diameter, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Furthermore, the cylinder diameter would only depend on dimensions of the cylinder block which is to receive it.

Claims 7-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allyne '476, Panyard et al ' 230 and Squires '053 or Lynall '270, as stated above, and further in view of Usui '621. Allyne, as modified by Panyard and Squires '053 or Lynall,

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discloses most of the claimed elements but for closely fitting a forming mandrel within the internal diameter as required by claim 7 and finish machining the forged cylinder liner blank to form a cylinder liner as required by claims 7 and 14. However, the use of a mandrel during the formation of the flange portion is taught by Squires (elements 6, 15 and 24) while the step of finish machining the liner blank to form a cylinder liner is taught by Usui (col. 2, lines 42-47). Therefore it would have been obvious to include the use of a forming mandrel in the manufacture of the cylinder liner of Allyne for the purpose of ensuring that the sidewall portions of the cylinder are not deformed in an unwanted manner. It would have been further obvious to include a finish machining step in the production of the cylinder liner of Allyne for the purpose of providing a finished cylinder liner with superior qualities.

Regarding claims 9-11 and 15-17 and the carbon content of the steel (steel type) and the internal diameter of the cylinder liner, it would have been obvious to utilize carbon steel with carbon amount in the claimed ranges and to manufacture the cylinder liner with the claimed inner diameter, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Additionally, the material used is considered a design choice in that applicants clearly state that a variety of starting materials could be used in the manufacture of the cylinder liner (applicants specification page 10, line 25). Furthermore, the cylinder diameter would only depend on dimensions of the cylinder block which is to receive it.

Regarding claim 12, applying 500 to 1000 tons of force to the press dies to form the flange portion would have been obvious since it would only depend on the materials used and final dimensions of the desired product and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 13, Squires teaches that the application of heat to the end portion of a metal tube member to forge flange ends is known (page 1, lines 6-11) while the specific step of induction heating and temperature of about 1200 degrees F would have been obvious since the examiner that official notice that such steps are well known in the metal working arts and the temperature would only depend on the desired workability of the metal work piece during deformation. Furthermore, such a step is considered a design choice in that applicants state that the process does not require the heating step as claimed (applicants specification page 11, lines 5-6).

Response to Arguments

Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 571-272-4430. The examiner can normally be reached on Mon - Friday 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dmitry Suhol Primary Examiner Art Unit 3725 Page 6